

Work Order ID 151574

Thursday, September 29, 2016 9:19:17 AM

151574

Page 1

Item ID: 646.4002

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: AS350 Wiper Deflector

Start Date: 9/29/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 10/6/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: **DAS 21 9-89** Date: **SEP 29 2016**

Tooling:

Date:

Run Start

NR1

QC: Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
646.4000	C1	DAS 6 9-89							SEP 30 2016

100

Document Control

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP 646.4002

DAS 28 9-89**OCT 04 2016**

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

DAS 6 9-89**OCT 03 2016****DAS 27 9-89**

120

QC4- 100% Inspect kits for completeness

0.00

120

QC

Memo

0.00

Quality Control

DAS 28 9-89**OCT 04 2016**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY																																																											
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	No Re-verification ☐	Operator ☐	Offset/Setup ☐	Supplier ☐	Training ☐	Use for Testing ☐	Poor Information ☐	Rushing ☐	Product Improvement ☐	Process Improvement ☐	Manufacturing Process ☐	Past Due ☐	Pressure/Forced ☐	Bending ☐	Centre Not Concentric ☐	Cracks ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Crushing ☐	Heat Treat ☐	Wave/Twist in Tube ☐	Marks/Chatter ☐	Temperature/Cure ☐	Set-up ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Inspection Incomplete/Unqualified ☐	Contamination ☐	Countersink ☐	Cut Too Short ☐	Instructions Incomplete/Unclear ☐	Drill Holes ☐	Power Loss/Surge ☐	Folio/Program ☐	Grain ☐	Weld ☐	Wrong Stock Pulled ☐	Out of Sequence ☐	Off-set ☐	Mislabeled ☐	Fit/Function ☐	Misaligned/off center ☐	Positioned Wrong ☐	Outside Dimensions ☐	Over/Under tolerance ☐	Part Incorrect ☐	Part Lost/Missing ☐	Part Moved ☐	Drawing ☐	Finish ☐	Misread ☐	Turning Sequence ☐
																								OTHER :																																							

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Customer:

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	Packaging					1	DAS 28 9-89	OCT 04 2016	
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP 646.4002 Location : FG102								
140		0.00							
140	QC21- Final Inspection - Work Order Release						DAS 21 9-89	OCT 05 2016	
QC	Memo	0.00							
Quality Control									

vs 10/12/05

DAS
21
9-89

OCT 05 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																														
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Description Work Order Deviation				Disposition																																																														
Root Cause		FAULT CATEGORY																																																																
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____				
Misidentified ☐	Past Due ☐																																																																	

Picklist Print

Thursday, September 29, 2016 9:19:20 AM

Page 1

Work Order ID: 151574

151574

Parent Item: 646.4002

646 4002

Parent Item Name: AS350 Wiper Deflector

Start Date: 9/29/2016

Required Date: 10/6/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 12.12.23 NEW ISSUE DD VERF:JLM
16.01.07 DWG REV.C DD VERF:JLM

IPP REV:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
646.3410 *646 3410* LH Wiper Deflector		Manufactured	No				Each	26.0000		1		DAS 6 27 9-89	DAS 27 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				cck010				26					
				125083				14					
				97822				12					
646.3411 *646 3411* RH Wiper Deflector		Manufactured	No				Each	24.0000		1		AS 3 27 9-89	DAS 27 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				cck010				24					
				125083				10					
				97823				14					
NAS1149F0332P *NAS1149F0332P* Washer		Purchased	No				Each	1,782.000		16		OCT 03 2016	AS 6 27 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				GA				282					
				m133709				282					
				ST262				1500					
				m135544				1500					

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Thursday, September 29, 2016 9:19:20 AM

Page 2

Work Order ID: 151574

151574

Parent Item: 646.4002

646 4002

Parent Item Name: AS350 Wiper Deflector

Start Date: 9/29/2016

Required Date: 10/6/2016

Start Qty: 1.00

Required Qty: 1.00

MS21042L3

Purchased

No

Each

2,113.000

MS21042L3

Nut

OCT 03 2016

DAS 6 27
9-89 9-89

Location

Loc Qty

Loc Code

FP001

7

M130922

7

GA

253

m134360

112

m135135

141

OVER007

1200

m135530

600

m135767

600

ST303

653

m135407

110

m135600

543

DAS 28
9-89

2

OCT 03 2016

DAS 6 27
9-89 9-89

MS27039-1-19

Purchased

No

Each

249.0000

MS27039-1-19

Screw

Location

Loc Qty

Loc Code

GA

82

m134134

82

ST280

167

m135774

167

DAS 28
9-89

2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step # : _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Picklist Print

Thursday, September 29, 2016 9:19:20 AM

Page 3

Work Order ID: 151574

151574

Parent Item: 646.4002

646 4002

Parent Item Name: AS350 Wiper Deflector

Start Date: 9/29/2016

Required Date: 10/6/2016

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-18

Purchased

No

Each

1,747.000

MS27039-1-18

Screw

**

OCT 03 2016

DAS
6
9-89

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

GA

245

123522

51

124326

194

over006

1171

124326

1171

ST280

331

124326

331

646.3814

Manufactured

No

Each

16.0000

646 3814

Wiper Bracket

**

OCT 03 2016

DAS
6
9-89

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

CCK106

16

125083

16

600.1012

Purchased

No

Each

15.0000

600 1012

Sealant PR1425B2 (#654 sem)

**

OCT 03 2016

DAS
6
9-89

DAS
27
9-89

09/01/2017

Location

Loc Qty

Loc Code

cck017

15

m135407

1

m135530

8

m135600

6

MS24694-S53

Purchased

No

Each

278.0000

MS24694-S53

SCREW

**

OCT 03 2016

DAS
6
9-89

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

ST284

278

113359

278

Thursday, September 29, 2016 9:19:20 AM

Shop Packet Print

Page 3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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OTHER : _____									



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.		05304		SHEET 1 OF 1						
DWG NO.	646.4000	REV:	C	PREPARED BY	J. BECKER	DATE:	02/04/16	EFFECT ON DWG ☐ INC. ☒ UNINC.		
DWG TITLE: AS350 CABLE CUTTERS KIT										
APPROVED BY:	ENGR. <i>[Signature]</i>	MFG	<i>[Signature]</i>	QC	<i>[Signature]</i>	EFF. NEXT ORDER				
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE								REASON: REVISED F/N 12.		ECR: N/A

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 157574 MJS
1609-28

SHEET 1, BOM IS:

12	R	601.1624	8	16	LOCKNUT	MS21042L3	
F/N	TC	PART NUMBER	4006	4005	DESCRIPTION	MATERIAL	SPECIFICATION
			QTY				
DOCUMENTS EFFECTED:					CHANGE CATEGORY		DER REVIEW REQUIRED
☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM					☐ MAJOR ☒ MINOR		☐ YES ☒ NO

DQA: _____ Date: _____

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NOTES:
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NO PART HEREOF MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE EXPRESS
WRITTEN PERMISSION OF AERIAL INDUSTRIES OR AERIAL INDUSTRIES INC.

- 1 AFTER INSTALLATION, APPLY F/N 54 OR F/N 54 TO FILL GAPS AND FILED EDGES.
- 2 INSTALL F/N 14 WITH F/N 52 & 53.
- 3 3M VHB ADHESIVE TAPE .025" THICK X .50" WIDE
VENDOR: MCMASTER-CARR P/N 759354651
- 4 3M TAPE PRIMER 94. APPLY TO BOTH SURFACES A/R BEFORE TAPE.
VENDOR: R.S. HUGHES P/N 021200.24216.
- 5 REUSE FASTENERS FROM F/N 1.
- 6 USE WASHERS A/R AS SHIMS TO OBTAIN BEST FITMENT.
- 7 AT CUSTOMER'S OPTION, INSTALL F/N 65 BY MATCH DRILLING ON TO F/N 1.
- 8 INSTALL SHIM IF OEM PROVISIONS ARE INSTALLED ON AIRCRAFT. REMOVE SHIM LAYERS TO ACHIEVE CORRECT SIZE. MATCH DRILL HOLES. USE F/N 78 SCREW IN PLACE OF F/N 17 SCREW.
- 9 NEWER INSTALLATIONS ON AIRCRAFT WITH UPDATED CANOPY MAY REQUIRE DIFFERENT LENGTH SCREWS. USE F/N 42 TO REPLACE F/N 44 & F/N 26 IN PLACE OF F/N 41 WHEN NECESSARY.

Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	Q600	
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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

1 2 3 4 5 6 7 8

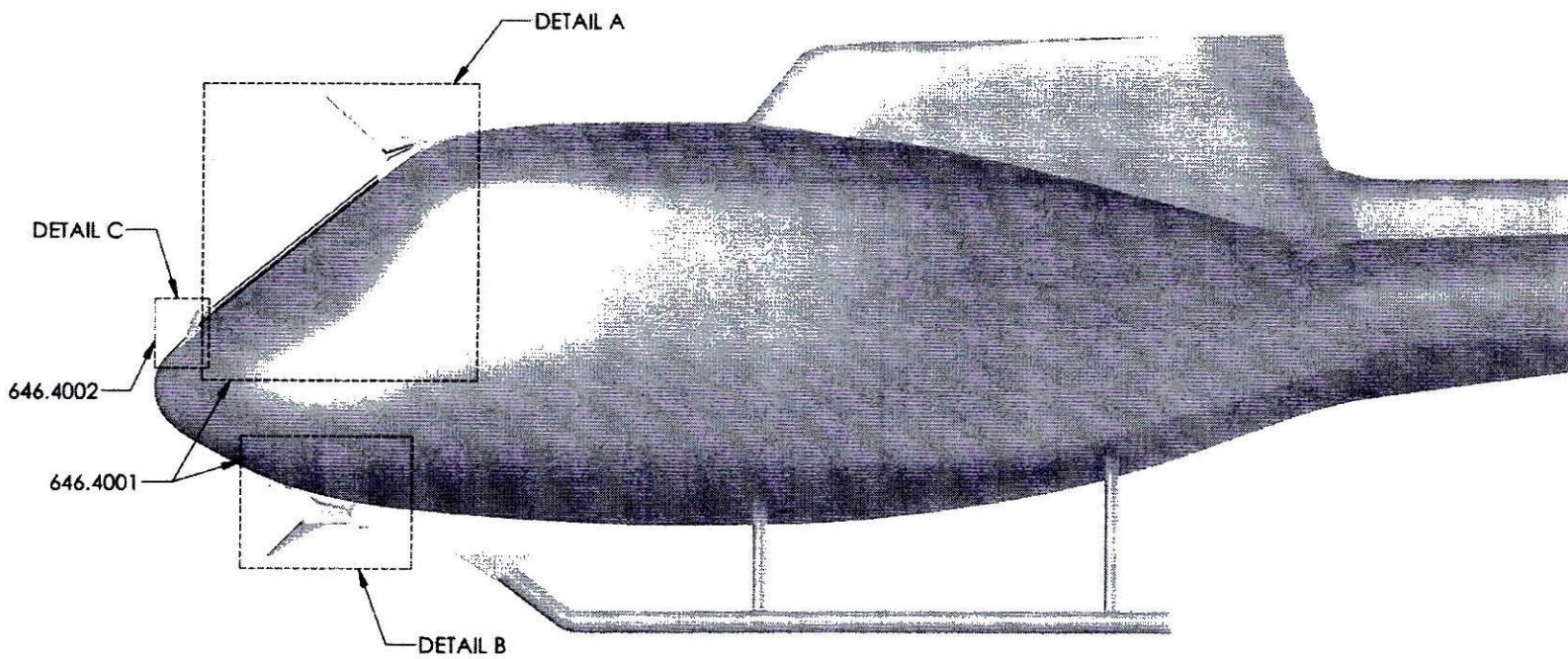
A

B

C

D

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ORIGINAL DATE UNDCOM-175 08-27-09		3030 ENTERPRISE CT., SUITE A VISTA, CA 92081 (760) 724-5300	
DRAWN BY: DIRECTOR		DART AEROSPACE	
I. HUR		P. BRAVO	
DRAWING APPROVAL:		APICAL INDUSTRIES, INC. DDA DART AEROSPACE	
P. BRAVO			
DATE: 08-27-09			
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±0.05 3 PLACE DECIMALS ±0.005 ANGLES ± 5°			
REV	DATE CODE	DWG. NO.	REV
B	07M26	646.4000	C
SCALE: NONE		SHEET 2 OF 5	

DQA: _____ Date: _____



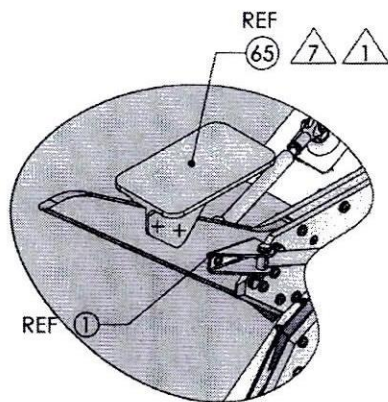
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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DETAIL D
TYPICAL GPS MOUNT KIT INSTALLATION

DETAIL D

2 PL 64

2 PL 7
2 PL 74
4 PL 75
4 PL 76

44 OR 62 22 PL 9
11 44PL
12 22PL

2 PL 40

9 2 PL 26 OR 41
2 PL 12
2 PL 46
A/R 59
A/R 60

DETAIL A
SHOWN ISOMETRICALLY

51 2 PL
11 4 PL
73 2 PL

62 2 PL
11 2 PL

69 2 PL
71 2 PL
70 4 PL
66 2 PL
67 2 PL

38 6 PL
11 6 PL

14 1 2

48 2 PL
11 2 PL

47 2 PL
35 4 PL
34 2 PL

2 PL 68
2 PL 72

42 4 PL
11 8 PL
12 4 PL
57 A/R
58 A/R

43 2 PL
11 4 PL
12 2 PL

45 35 4 PL
34 2 PL

1 3
3 55
4 56

ORIGINAL DATE JAN 04 05		OR 07 08	
DRAWN BY S. HUN		P. BRAVO	
TOLERANCE APPROVAL P. BRAVO		08 07 08	
CONTRACT NO.			
DART AEROSPACE 3030 ENTERPRISE CT. SUITE A VISTA, CA 92081 (760) 724-5300			
AS350 CABLE CUTTERS KIT			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.01 2 PLACE DECIMALS ±.005 ANGLES ±.5°	SERIAL B	DATE CODE D7M26	REV C
SCALE NONE		SHEET 3 OF 3	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

DETAIL B
LH SIDE SHOWN WITH AIRFRAME

[illegible]

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



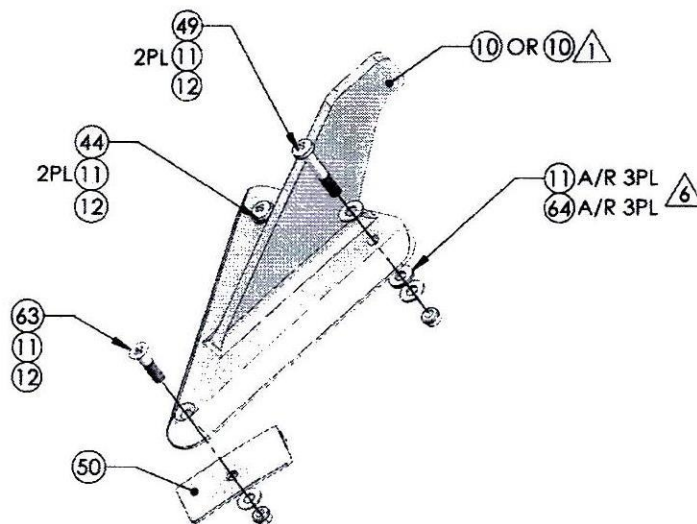
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

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DETAIL C
 LH SHOWN EXPLODED
 RH OPPOSITE

ORIGINAL DATE DWC-DA-150 08-27-08		3030 ENTERPRISE CT. SUITE A VISTA, CA 92081 (760)-724-5300	
DRAWN BY T. HOB		CHECKED P. BRAVO	
DRAWING APPROVAL 08-01-08		APICAL INDUSTRIES INC. DSA DART AEROSPACE	
CONTRACT NO.		AS350 CABLE CUTTERS KIT	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS .005 TO 2 PLACE DECIMALS .005 ANGLES .5°		REV B	DATE 07/11/16
DWC NO. 646.4000		REV C	
SCALE NONE		SHEET 5 OF 5	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Work Order ID 151574

Thursday, September 29, 2016 9:19:17 AM

151574

Page 1

Item ID: 646.4002 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: AS350 Wiper Deflector
Start Date: 9/29/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 10/6/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: DAS 21 Date: SEP 29 2016 Tooling: _____ Date: _____ Run Start ***NR1***
QC: 9-89 Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr	DAS							
646.4000	C1	6 9-89							
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP 646.4002								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
120	QC4- 100% Inspect kits for completeness	0.00							
120									
QC	Memo	0.00							
Quality Control									

DAS
21
9-89**OCT 03 2016**